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Is It Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process[†]

By MARIANNE BERTRAND, MATILDE BOMBARDINI, AND FRANCESCO TREBBI*

Do lobbyists provide issue-specific information to members of Congress? Or do they provide special interests access to politicians? We present evidence to assess the role of issue expertise versus connections in the US Federal lobbying process and illustrate how both are at work. In support of the connections view, we show that lobbyists follow politicians they were initially connected to when those politicians switch to new committee assignments. In support of the expertise view, we show that there is a group of experts that even politicians of opposite political affiliation listen to. However, we find a more consistent monetary premium for connections than expertise. (*JEL* D72, D82)

At the intersection between the political and the economic spheres lies the lobbying industry. Trillions of dollars of public policy intervention, government procurement, and budgetary items are constantly, thoroughly, scrutinized, advocated, or opposed by representatives of special interests. The sheer relevance of the $4 billion federal lobbying industry has become evident in any aspect of the 2008–2009 financial crisis, including emergency financial market intervention (the TARP), financial regulation, countercyclical fiscal policy intervention, and health care reform.[1] Notwithstanding its perceived fundamental role in affecting economic policy, very little systematic empirical research about the lobbying industry is available to economists and political scientists alike. A large part of the theoretical literature on interest groups has painted the lobbying process as one of information transmission:

*Bertrand: Booth School of Business, University of Chicago, 5807 South Woodlawn Avenue, Chicago, IL 60637 (e-mail: marianne.bertrand@chicagobooth.edu); Bombardini: Vancouver School of Economics, University of British Columbia, 997-1873 East Mall, Vancouver, BC V6T 1Z1 (e-mail: matilde.bombardini@ubc.ca); Trebbi: Vancouver School of Economics, University of British Columbia, 997-1873 East Mall, Vancouver, BC V6T 1Z1 (e-mail: francesco.trebbi@ubc.ca). We would like to thank Allan Drazen, Keith Krehbiel, Ken Shepsle, and seminar participants at the Korean Development Institute, the University of Chicago Booth School of Business, CIFAR, Columbia Graduate School of Business, University of California-Berkeley Haas School of Business, NBER Political Economy Summer Institute, University of Minnesota, the 2010 Wallis Conference on Political Economy, and Stanford Graduate School of Business. We also thank Jordi Blanes i Vidal, Mirko Draca, and Christian Fons-Rosen for sharing their data. Bingjing Li and David Wood provided outstanding research assistance. Financial support from the Initiative on Global Financial Markets and CIFAR is kindly acknowledged. The authors declare that they have no relevant or material financial interests that relate to the research described in this paper.

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[1]See, for instance, Birnbaum (2008): "A key provision of the housing bill now awaiting action in the Senate—and widely touted as offering a lifeline to distressed homeowners—was initially suggested to Congress by lobbyists for major banks facing their own huge losses from the subprime mortgage crisis..." or Pear (2009): "In the official record of the historic House debate on overhauling health care, the speeches of many lawmakers echo with similarities.... Statements by more than a dozen lawmakers were ghostwritten, in whole or in part, by Washington lobbyists working for Genetech, one of the world's largest biotechnology companies."

informed interest groups send cheap or costly signals to uninformed politicians.[2] However, these stylized models of lobbying do not account for the presence of the lobbying industry as an intermediary. In this paper, we propose to study the role that the lobbyists themselves play in the lobbying process, how they use their specific skills and assets, and which of these skills and assets are particularly valuable to the interest groups which hire them.

What might be the lobbyists' role in the lobbying process? According to one view, lobbyists are the experts who provide information to legislators and help guide their decision-making process. Their expertise might be particularly valuable when one considers that neither legislators nor the interest groups which hire lobbyists may have the technical background or the time to delve into the detailed implications of all the pieces of legislation that are under consideration.

In contrast to this view, many in the media and on the street hold the view that lobbyists' main asset is not *what* they know, but instead *whom* they know.[3] In interviews with insiders, McGrath (2006, p. 74) reports that "there are three important things to know about lobbying: contacts, contacts, contacts." Under this alternative view, lobbyists' key asset is not their expertise, but instead their access to various members of Congress through personal, and possibly also financial, connections.[4] While this view of lobbyists' roles does not rule out a flow of information from interest groups to politicians, it excludes that lobbyists are the source of information.

In this paper, we combine multiple data sources to help inform our thinking about these two views of lobbyists. The dataset we assembled represents the entire federal lobbying industry in the United States. We employ lobbying records as maintained by the Senate Office of Public Records (SOPR), lobbyists' campaign contribution donations from the Federal Election Commission, and biographical information for a subset of lobbyists that we collect from an online registry. We develop measures of lobbyists' connections to politicians and lobbyists' expertise. Our measure of issue expertise is based on considering the entire set of lobbying records associated with a given lobbyist and evaluating how narrow or broad the range of issues a lobbyist's name is associated with is. While we cannot directly observe lobbyists' contacts

[2] Grossman and Helpman (2001) offer an exhaustive literature review. The basic idea is that interest groups, although known to be biased, are credible to the politician if their preferences are sufficiently aligned with the politician's own preferences or the information they send is costly (or if it can be verified). Among the most prominent contributions are Crawford and Sobel (1982); Calvert (1985); Potters and Van Winden (1992); Austen-Smith (1994, 1995). A few papers have looked at the interactions between the two tools available to interest groups (information transmission and campaign support): e.g., Austen-Smith (1995); Lohmann (1995); and more recently, Bennedsen and Feldmann (2006).

[3] See Salisbury et al. (1989) for an early discussion and test based on surveys of lobbyists and Apollonio, Cain, and Drutman (2008, section B) for a recent discussion.

[4] We note, however, that such a view of lobbyists does not necessarily imply (even though it could be associated with) a quid pro quo aspect of the lobbying process. According to the quid pro quo view, politicians either modify their electoral platform or implement policies when in office and receive in exchange valuable campaign contributions that are used more or less directly to sway voters. A large number of models with different objectives share this fundamental quid pro quo approach. A non-exhaustive list of papers that have employed this approach includes Austen-Smith (1987); Baron (1989); Baron (1994); Snyder (1990); Snyder (1991); Grossman and Helpman (1994); Dixit, Grossman, and Helpman (1997); and Besley and Coate (2001). Bombardini and Trebbi (2011) explore the interaction between monetary support and direct votes promised by interest groups but essentially maintain the quid pro quo approach. This strand of the literature has received a lot of attention from the empirical point of view, in particular in its application to the literature on endogenous trade policy (Goldberg and Maggi 1999).

with politicians, we propose to proxy for it with information on the campaign contributions that lobbyists make to various politicians and members of Congress.[5]

We start by demonstrating that lobbyists' connections to politicians are a significant determinant of what legislative issues they work on. Specifically, a lobbyist who works on health care-related issues is systematically more likely to be connected (through campaign contributions) to legislators whose committee assignments include health care. In support of a causal interpretation of this pattern, we show, more strikingly, that lobbyists switch issues in a predictable way as the legislators they are connected to through campaign donations switch committee assignments. So, for example, a lobbyist who is connected to a legislator whose committee assignment includes health care in one Congress is more likely to cover defense-related issues in the next Congress if the legislator he or she is connected to is reassigned to defense in the next Congress. These first results are consistent with Blanes i Vidal, Draca, and Fons-Rosen (2012a), who show that those lobbyists who have past experience as senatorial aides lose revenues when their senator leaves office.

We interpret these results as evidence that lobbyists' personal contacts to politicians are a relevant asset in defining their job. Yet, this evidence does not per se imply that lobbyists' expertise about certain topics is irrelevant to their job, as we indicated above. Connections may simply be a way for lobbyists to gain access to time-constrained politicians, "a chance to 'tell their story'" (Sabato 1985, p. 127). Once access has been gained, the lobbyists may still provide useful information to politicians. We argue that some systematic patterns we observe in the data about the structure of the personal connections between lobbyists and politicians provide at least indirect support for the view that lobbyists' issue expertise is also a relevant asset in defining their job (this is a prevalent view in the informational lobbying literature). Specifically, we find that, among the lobbyists who are connected to a given politician, a larger share of experts than nonexperts have opposite party affiliation to the politician. We argue that this pattern is consistent with the prediction of standard informational lobbying models such as Krishna and Morgan (2001) and Grossman and Helpman (2001), where a receiver is better informed if she receives a signal from senders with opposite biases. More intuitively, while primarily politicians maintain relationships with lobbyists of the same political orientation, they do appear more likely to cross the aisle when talking to experts, as would be expected if the politicians were trying to improve their information acquisition.

While the lobbyists' jobs may rely on both their personal contacts and their knowledge of more technical legislative issues, these two assets may differ in how scarce or easily replicable they are. This leads us to the final question we address in this paper: what are lobbyists paid for? Do interest groups which hire lobbyists pay mainly for access to their connections or access to their expertise? Using information on the dollar value attached to lobbying reports, we show that both carry a positive premium: i.e., expert lobbyists and connected lobbyists are paid more on average. Nevertheless, when comparing the evidence on the two premia, we argue that lobbyists' connections are a scarcer resource than their expertise as they are

[5] Wright (1990) is among the first to report a positive correlation between lobbying contacts and campaign contributions, and Ainsworth (1993, p. 42) underscores that indeed, "Campaign contributions appear to be most useful as predictors of access (Grenzke 1989; Herndon 1982; Langbein 1986)."

more consistently associated with a positive revenue premium. Further supporting this view, we find evidence of *political cycles* in the returns to lobbying, documenting an increase in the returns to lobbyists associated with a given party when that party is in power. In contrast, we find no evidence that the return of a specialized lobbyist increases when his or her issue becomes legislatively *hot*; instead, it seems that most of the adjustment during a boom is through additional entry of nonspecialists who start lobbying on that issue.

The battery of tests and pieces of evidence lead us to the conclusion that the lobbying process is a complex activity where both the personal connections and issue expertise of the lobbyists play a role. However the evidence on returns points to connections being the scarcer resource,[6] and is rather consistent with a scenario where lobbyists connected to a given politician are valuable because they have a deep knowledge of that politician's constituency,[7] and/or have built a relationship of trust and credibility with that politician. Lobbyists are likely to be communicating information, but their returns are seemingly more related to the complementary asset they bring to the table and to their role as intermediaries in the transmission of information. Overall, the evidence seems to reject a view that espouses unilaterally either the informational story or the connection story as a single, stand-alone driving force of this industry.

The rest of the paper proceeds as follows. We first describe the pool of lobbyists and present some summary statistics on their professional background (Section I). We then define our measures of connections and expertise (Section II). Section III presents tests of whether and how connections to politicians affect what lobbyists work on. Section IV presents indirect evidence of informational transfer between lobbyists and politicians. Section V presents our analysis of the premia associated with issue expertise and connections, along with an analysis of returns over *issue cycles* and *political cycles*. We conclude in Section VI. An online Appendix includes all the descriptive tables and our robustness checks.

I. The Lobbyists

We use lobbying registration information from the Senate Office of Public Records (SOPR) to build a database of lobbyists for the period from 1999 to 2008.[8] Each of

[6] Incidentally, it is easy to verify that large lobbying firms like Patton Boggs LLP or Cassidy and Associates employ few individuals with backgrounds which point to specific technical training, even when the lobbying covers technical issues such as biotechnology or nuclear energy. See online Appendix Table A1 where we report information extracted from the biographies of lobbyists posted online by the lobbying firms.

[7] Hansen (1991, p. 5) suggests that "Lawmakers operate in highly uncertain environments. They have an idea of the positions they need to take to gain reelection, but they do not know for sure. Interest groups offer to help... They provide political intelligence about the preferences of congressional constituents."

[8] Data on lobbying expenditures from the Senate Office of Public Records has been previously employed in a very small number of papers, some of which utilize only a very limited subset of the available information. Ansolabehere, Snyder, and Tripathi (2002) focus on the link between campaign contributions and lobbying and show that the two are correlated, a result which is consistent with a view that campaign contributions are a way for interest groups to buy access to politicians. Once access is gained, lobbyists have a chance to voice the interests of their clients. The paper also shows that the pattern of campaign contributions varies according to the intensity of lobbying of a given group. Baumgertner and Leech (2001) offer a partial analysis of the distribution of lobbyists across issues, finding high concentration in some issues and very low in others. Bombardini and Trebbi (2012) study trade association lobbying in international trade, while Igan, Mishra, and Tressel (2009) and Mian, Sufi, and Trebbi (2010) study lobbying by home mortgage firms during the US housing market expansion. Finally, Drutman (2011) and Kerr, Lincoln, and Mishra (2011) study empirically the decisions of firms to lobby and de Figueiredo and Silverman (2006) focus on the lobbying decisions of universities.

the records filed with SOPR contains not only the name of the reporting firm and the name of the client firm or organization, but also the names of the individual lobbyists involved in this specific lobbying case. It is therefore possible to use the lobbying records to construct a database that contains the names of all lobbyists who were active at the federal level over the last decade.[9] We identify about 37,000 individual lobbyists between 1999 and 2008. The SOPR data also allow us to separate the lobbyists into two subgroups based on whether they are in-house lobbyists (these are the cases where the registering firm is the same as the client firm in the lobbying report) or whether they work for a lobbying firm that is representing another organization (the cases where the registering firm is different from the client firm). In what follows, we refer to the former group as the *internal* (or in-house) lobbyists and to the latter group as the *external* lobbyists.[10] We can also use the SOPR data to compute the following for each lobbyist × year observation: number of years of experience (with the caveat of the right-tail truncation), and number of records the lobbyist's name is attached to in a given year. Furthermore, we can compute how many years a given lobbyist appears as active over the sample period (ten years at most).

We rely on www.lobbyists.info to obtain additional time-invariant background information about the lobbyists we identify in the lobbying records. This website, which was originally derived from the directory "Washington Representatives" and is maintained by Columbia Books and Information Services (CBIS), is the best information source we are aware of on US federal lobbyists. Often included on the website are short biographies which allow us to profile the lobbyists further. In particular, we searched for specific strings in this online directory to build a set of background experience indicators, such as whether a lobbyist has "Republican" or "Democrat" associations, whether the lobbyist has "House" or "Senate" or "White House" experience, or whether the lobbyist is referred to as "Hon." (the explicit title for former members of Congress).[11] Not all lobbyists identified in the SOPR data appear on www.lobbyists.info; in practice, we found about 14,000 of the 37,000 lobbyists identified in the SOPR data in www.lobbyists.info.[12]

[9] Any type of information provision and research activity related to contacts to politicians requires registration. From the Office of the Clerk, Lobbying Disclosure Act Guidance: "Lobbying activity is defined in Section 3(7) as 'lobbying contacts and efforts in support of such contacts, including... background work that is intended, at the time it is performed, for use in contacts, and coordination with the lobbying activities of others.' If the intent of the work is to support ongoing and future lobbying, then it would fall within the definition of lobbying activities." Any individual paid to perform such activities in excess of 20 percent of his work time and who establishes more than one lobbying contact with a politician over a quarter has to register as lobbyist.

[10] If a lobbyist ever appears as both internal and external in a given year, we arbitrarily categorize her as external in that year. When we collapse the panel data at the lobbyist level, we also categorize as external a lobbyist who appears both as internal and external in different sample years.

[11] To be specific, we first downloaded the whole directory by running a blank search on the database. Second, we ran a series of searches conditional on matching certain strings of text in the bio, like "senate" or "house" or "Democrat," etc. Third, we merged together every single list against the whole set of lobbyists, generating a dummy conditional on the matching being successful (i.e., you get Democrat = 1 if you are in the output of that search). Prior to converging on this coding method, we run about 200 manual spot searches to check that the method was producing reliable results.

[12] Given that we downloaded the directory information in 2009, we are more successful at identifying lobbyists who were active in the later part of the sample period than lobbyists that were active in the first few years. The match rate varies between the upper 30 percent range at the beginning of the period to the mid-60 percent range toward the end. Those lobbyists that can be identified in www.lobbyists.info typically have more years of experience and are associated with more lobbying records in each active year. See Table 1.

TABLE 1—THE LOBBYISTS SUMMARY STATISTICS

	Observations	Mean	SD
In-house lobbyist	36,982	0.416	0.493
Number of lobbying records/year	36,982	4.692	9.755
Number of active years	36,982	3.898	2.880
Tenure	36,982	1.709	1.605
Any biographical information on www.lobbyists.info	13,720	0.940	0.238
Republican	13,720	0.106	0.308
Democrat	13,720	0.092	0.289
Former member of Congress	13,720	0.012	0.109
Of which:			
Republican	13,720	0.006	0.079
Democrat	13,720	0.006	0.074
Senate	13,720	0.003	0.056
House	13,720	0.010	0.099
Past experience in/as:			
White House	13,720	0.023	0.149
Aide	13,720	0.110	0.314
Clerk	13,720	0.014	0.119
Counsel	13,720	0.077	0.267
House (but not as house representative)	13,720	0.007	0.082
Senate (but not as senator)	13,720	0.103	0.304
Experience in the:			
1960s	13,720	0.014	0.116
1970s	13,720	0.048	0.213
1980s	13,720	0.068	0.251
1990s	13,720	0.081	0.273
2000s	13,720	0.063	0.243

Notes: Unique individual lobbyists based on SOPR listed names, standardized by authors. All lobbyists are equally weighted to compute the summary statistics. Experience decade refers to first year of activity.

Table 1 summarizes the lobbyist-level data. The unit of observation is a lobbyist and all lobbyists are equally weighted to compute these summary statistics. About 40 percent of lobbyists work in-house.[13]

The average lobbyist appears in the data for about four years and has nearly two years of experience; he/she is associated with about five lobbying records in a typical active year. Among those lobbyists whom we can find in www.lobbyist.info, 97 percent have some biographical information associated with their name. Among those, about 11 percent have some association with the Republican party and about 9.8 percent with the Democratic party. A bit more than 1 percent of the lobbyists for which we could find biographical information are former members of Congress.[14] About 2 percent of the biographies mention some experience in the White House. There is also a large representation of former *aides* (11 percent) and individuals

[13] A widely held view of internal lobbyists is of watchdogs monitoring the day-to-day activity of Congress flagging potential issues of interest for their company (and calling in the professional external lobbyists when necessary). Such activity does not appear to require any particular expertise or connections. Hrebenar and Morgan (2009) highlight how many of the in-house lobbyists are also not full-time lobbyists and are often volunteer or amateur lobbyists, especially with regard to groups dealing with moral, environmental, or religious issues.

[14] A majority of those are ex-house representatives, and about equal shares come from the right and left wings of the political spectrum (0.7 percent and 0.6 percent, respectively).

with experience in senators' offices (around 10 percent).[15] We refer to Bertrand, Bombardini, and Trebbi (2011) for a description of how lobbyists' background has evolved over time.

II. Measuring Connections and Expertise

A. *Connections*

A common view is that lobbyists' main asset is their social network and, in particular, their personal relations to lawmakers.

In the words of Hon. John Boehner (2006): "... many of the lobbyists who enter our offices every day to represent their clients are, for all practical purposes, complete mysteries to us. Yet for the House to function, some degree of trust is necessary. Many lobbyists are of the highest integrity and feel as much of a duty to the House as a democratic institution as they do to their clients. But there's every incentive for those with more questionable ethics to shortchange us and the House. And absent our personal, long-standing relationships, there is no way for us to tell the difference between the two."

While investigative journalism has given us detailed accounts of relationships between legislators and lobbyists, these accounts only provide spotty pictures which cannot be generalized to the entire lobbying industry or lawmaking group. A clear difficulty in terms of painting a more complete picture is to build a systematic measure of connections. We propose to exploit information on the campaign contributions lobbyists make to politicians to construct such a measure. Specifically, we search the campaign contribution records kept by the Federal Election Commission (FEC) to identify all campaign contributions made by the lobbyists identified in the SOPR data. For each lobbyist, we can measure whether he or she has made at least one contribution to a campaign over the sample period[16] and we can count a lobbyist's average number of contributions in any given Congress; we can also tag those lobbyists who make "many" campaign contributions in any given Congress (we arbitrarily define "many" as five or more). One of the advantages of this measure is that it can be constructed for the entire universe of lobbyists.

Across all lobbyist-year observations, the fraction of lobbyists with at least one donation is 27 percent; about 8 percent make contributions to many politicians. For external lobbyists the same figures (38 percent and 14 percent respectively) are more than twice as large compared to in-house lobbyists.

Is our proposed measure of connection good at capturing personal relationships between lobbyists and politicians? Or does it simply reflect electoral motives or influence motives as previously emphasized in the interest group and campaign contributions literatures? Addressing these questions is crucial for our exercise because we are implicitly adopting the view that contributions by lobbyists are of a different nature from campaign donations made directly by interest groups. While campaign

[15] Of course, these two groups can overlap.

[16] FEC disclosure requires indicating the individual name, occupation, and employer of the donor, allowing a precise match to SOPR data. The FEC data identify 143,033 unique politician-lobbyist-congress links with 796 uniquely identified politicians, 12,514 unique lobbyist names, and a median donation of $500.

contributions by interest groups may be mostly determined by the desire to elect certain politicians (the *electoral* motive) or to "buy" policies (the *influence* motive), we propose to use lobbyists' contributions as a reflection of preexisting ties and *access* to a given politician. We perform several exercises to support this long-standing and nonstrategic view of contributions for the case of lobbyists. First, we show that our measure of connections performs reasonably well in subsets of the data for which we have detailed information about long-standing relationships and when compared to the measure of connections in Blanes i Vidal, Draca, and Fons-Rosen (2012a). Second, we show that our measure of connections appears unrelated to strategic motives, such as those generated by a tight election race or the assignment of a politician to a more prominent committee position. Third, we show that our measure of connections correlates with lobbyists' and politicians' permanent characteristics that intuitively should make them more likely to be connected.

First, we verify that our measure of connections captures relationships that we can document through other sources. Indeed, a concern about our measure is that systematically it may miss strong connections between lobbyists and politicians. To build some sense of how much of a concern this is, we considered a group of 127 lobbyists with family members serving in Congress around their time of activity from the Congressional information provider Legistorm.com. Were campaign contributions just a weak substitute for closer ties, we would expect to see no connections as we measure them (e.g., through political donations) between these lobbyists and their family members in Congress. In fact, we found that 38.6 percent of these family lobbyists make campaign contributions to their family members. As an additional check, we also made use of a list of 21 lobbyists and public affairs consultants with strong ties to Republican Congressman John A. Boehner published by the *New York Times* (Lipton 2010). Cross-checking with FEC individual campaign contribution data, we were able to recover 52 percent of these connections. Hence, our connection measure, while certainly noisy, correlates arguably well with strong ties.[17]

We also compare our measure of connections to the one recently proposed by Blanes i Vidal, Draca, and Fons-Rosen (2012a). They define a lobbyist-politician pair as connected if the lobbyist worked as an aid for that senator or congressman before moving to K Street. Naturally, the number of connections based on FEC campaign contributions is larger than the number of connected pairs in Blanes i Vidal, Draca, and Fons-Rosen (2012a) (144,000 versus 1,354). Our FEC-based measure identifies 40.5 percent of the pairs in Blanes i Vidal, Draca, and Fons-Rosen (2012a).

[17] Another reason to believe that our measure may not pick up an existing connection is that, while a lobbyist may be connected to a politician, it is really the client hiring the lobbyist who is paying the campaign contributions to the politician, and not the lobbyist directly. This alternative concern may be partially addressed by considering the relationship between the campaign contributions received by politicians from lobbyists and from their clients respectively. While it is very cumbersome to explore any possible client-lobbyist-congressman connection in the data, the Center for Responsive Politics (CRP) presents lobbyist-client clusters of donations to members of Congress between January 2007 and June 2009. Clients must be members of the health care/health insurance industry and have hired at least ten outside lobbyists who display some campaign contribution to the same congressmen as the clients contributed to. Under the view requiring clients to carry the bulk of the campaign donations relative to their lobbyists, the amount of campaign contributions received by congressmen from clients should vastly exceed the lobbyists' donations. Quite to the contrary, for 52 out of 61 congressmen identified by the CRP as recipients of lobbyist-client bundles, the amount of lobbyists' contributions exceeds what was paid by clients. The lobbyist-client difference is large and statistically significant with lobbyists contributing on average $14,642 more than their clients, an average relative difference of about +50.4 percent.

Second, we verify that our measure of connections does not appear to respond systematically to strategic motives. We consider two potential sources of strategic motives. First, we ask whether the likelihood of a campaign contribution by a lobbyist to a legislator in Congress t is positively correlated to the political prominence of that legislator in Congress t, Congress $t-1$ or Congress $t+1$ (the latter being relevant if lobbyists can predict future political prominence). We measure such prominence by the average Grosewart index for the committee portfolio held by the politician, as well by whether the legislator is the chair of any committee.[18] We fail to find any systematic evidence in support of this strategic motive (see online Appendix Table A2).[19] We also consider the possibility that our measure of connections is picking up on an electoral motive rather than simply proxying for personal relationships. To do so, we return to the sample of connected pairs from Blanes i Vidal, Draca, and Fons-Rosen (2012a) and ask whether the campaign contributions we observe in that sample are disproportionately clustered around competitive election races. We fail to find systematic evidence in support of this electoral motive (see online Appendix Table A3).

In our third check, we investigate which characteristics of lobbyists and politicians make them more likely to be connected. This analysis is reported in Tables 2 and 3. We start with a lobbyist level analysis (Table 2). Intuitively, we expect our measure of connections to be larger for lobbyists whose past experience includes political jobs or working with politicians. The unit of observation in Table 2 is a lobbyist and all lobbyists are equally weighted. There is unambiguous evidence that past experience on the Hill or in the White House is associated with more connections to politicians through campaign contributions. Consider the last six columns, where the dependent variable is a dummy variable that equals 1 if the lobbyist makes campaign contributions to at least five politicians in the average Congress we observe him in the lobbying records. We find (column 7) that former members of Congress and those with some prior experience in the White House are respectively 14 and 10 percentage points more likely to maintain five or more connections to politicians. Lobbyists with associations with the Republican or Democratic parties are respectively 10 to 14 percentage points more likely to fall in the "many connections" category. Moving the focus to lobbyist-politician pairs, Table 3 provides evidence on which lobbyists make campaign contributions to which politician. We perform this analysis separately by Congress and present results for the 107th and 108th Congresses.[20] We create all possible lobbyist-lawmaker pairs (by cross-matching the list of lobbyists with the list of Congress members) and create a dummy variable that equals 1 if the lobbyist in a pair has made a campaign contribution to the lawmaker in that pair, 0 otherwise. We perform the analysis both with and without lobbyist and lawmaker fixed effects. Standard errors are clustered at the lobbyist level. Maybe not surprisingly, whether a given lobbyist contributes to a given politician's

[18] The Grosewart index is derived in Groseclose and Stewart (1998) as a hard measure of congressional committee desirability through legislators' revealed preferences.

[19] We find similar results when studying the likelihood of a *first-time* campaign contribution by a lobbyist to a politician.

[20] Within each Congress, we restrict ourselves to the subset of lobbyists for whom we could find background information on www.lobbyist.info and are active during that term and to the subset of politicians who are Members of Congress during that term.

TABLE 2—CORRELATES OF LOBBYISTS' CONNECTIONS TO POLITICIANS

	Any connection? ($Y = 1$)					
Sample	All		External		In-house	
Restrict to at least four active years?	No	Yes	No	Yes	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Former member of Congress	0.12	0.10	0.10	0.09	0.15	0.05
	[0.041]***	[0.048]**	[0.044]**	[0.049]*	[0.124]	[0.174]
Republican	0.15	0.14	0.12	0.11	0.18	0.15
	[0.017]***	[0.021]***	[0.019]***	[0.022]***	[0.035]***	[0.054]***
Democrat	0.19	0.19	0.18	0.16	0.10	0.15
	[0.018]***	[0.022]***	[0.020]***	[0.023]***	[0.041]**	[0.063]**
Experience in/as:						
House (not rep.)	0.10	0.07	0.09	0.05	−0.08	−0.10
	[0.049]**	[0.057]	[0.053]*	[0.058]	[0.131]	[0.219]
Senate (not senator)	0.09	0.08	0.08	0.07	0.07	0.13
	[0.016]***	[0.020]***	[0.018]***	[0.021]***	[0.036]*	[0.056]**
White House	0.18	0.17	0.15	0.13	0.23	0.26
	[0.028]***	[0.032]***	[0.030]***	[0.032]***	[0.076]***	[0.112]**
Aide	0.04	0.02	0.04	0.03	−0.04	−0.09
	[0.017]**	[0.020]	[0.018]**	[0.021]	[0.037]	[0.055]
Clerk	0.05	0.03	0.02	0.01	0.05	0.03
	[0.035]	[0.047]	[0.036]	[0.046]	[0.122]	[0.219]
Counsel	0.12	0.10	0.09	0.07	0.10	0.08
	[0.017]***	[0.020]***	[0.018]***	[0.021]***	[0.042]**	[0.064]
Experience in the:						
1960s	0.07	0.06	0.05	0.05	0.12	0.06
	[0.038]*	[0.043]	[0.040]	[0.044]	[0.120]	[0.182]
1970s	0.12	0.11	0.10	0.10	0.04	0.09
	[0.022]***	[0.025]***	[0.023]***	[0.025]***	[0.065]	[0.092]
1980s	0.12	0.09	0.10	0.07	0.05	0.04
	[0.019]***	[0.021]***	[0.020]***	[0.022]***	[0.053]	[0.073]
1990s	0.11	0.08	0.09	0.07	0.09	0.08
	[0.019]***	[0.023]***	[0.021]***	[0.023]***	[0.050]	[0.073]
2000s	−0.05	−0.04	−0.05	−0.03	−0.06	−0.06
	[0.020]**	[0.026]	[0.022]**	[0.027]	[0.048]	[0.075]
R^2	0.09	0.08	0.08	0.08	0.03	0.03
Observations	13,720	8,004	9,325	5,788	4,395	2,216

(*Continued*)

campaign is systematically related to whether the lobbyist and the politician share the same political ideology.

B. *Expertise*

An alternative to the idea that a lobbyist's value lies in her connections is the view that a lobbyist's role is to support and provide guidance to overly burdened legislators (and regulators) with much needed expertise on often complex topics. In this section, we construct measures of expertise (or specialization) at the lobbyist level.

We propose to measure the expertise of lobbyists by assessing the breadth of the issues they work on. This can be done with the SOPR data. Associated with each report

TABLE 2—CORRELATES OF LOBBYISTS' CONNECTIONS TO POLITICIANS (*Continued*)

	Many (>=5) connections? ($Y = 1$)					
Sample	All		External		In-house	
Restrict to at least four active years?	No (7)	Yes (8)	No (9)	Yes (10)	No (11)	Yes (12)
Former member of Congress	0.14	0.12	0.13	0.12	0.16	0.04
	[0.024]***	[0.032]***	[0.029]***	[0.038]***	[0.036]***	[0.049]
Republican	0.10	0.11	0.10	0.12	0.05	0.05
	[0.010]***	[0.014]***	[0.012]***	[0.017]***	[0.010]***	[0.015]***
Democrat	0.14	0.17	0.15	0.18	0.02	0.02
	[0.010]***	[0.014]***	[0.013]***	[0.017]***	[0.012]*	[0.018]
Experience in/as:						
House (not rep.)	0.07	0.08	0.08	0.07	−0.02	−0.04
	[0.029]**	[0.038]**	[0.035]**	[0.044]	[0.038]	[0.062]
Senate (not senator)	0.04	0.05	0.05	0.05	−0.01	0.00
	[0.009]***	[0.013]***	[0.012]***	[0.016]***	[0.011]	[0.016]
White House	0.10	0.11	0.10	0.10	0.07	0.03
	[0.016]***	[0.021]***	[0.020]***	[0.025]***	[0.022]***	[0.032]
Aide	−0.01	−0.01	0.00	−0.01	−0.02	−0.02
	[0.010]	[0.013]	[0.012]	[0.016]	[0.011]*	[0.016]
Clerk	0.00	0.01	−0.01	−0.01	−0.01	0.00
	[0.020]	[0.031]	[0.024]	[0.036]	[0.035]	[0.062]
Counsel	0.03	0.03	0.02	0.01	0.00	0.00
	[0.010]***	[0.013]**	[0.012]*	[0.016]	[0.012]	[0.018]
Experience in the:						
1960s	0.08	0.10	0.08	0.10	0.06	0.07
	[0.022]***	[0.029]***	[0.026]***	[0.034]***	[0.035]*	[0.051]
1970s	0.04	0.04	0.04	0.04	−0.02	−0.01
	[0.013]***	[0.017]**	[0.015]***	[0.020]	[0.019]	[0.026]
1980s	0.06	0.05	0.05	0.04	−0.02	0.00
	[0.011]***	[0.014]***	[0.013]***	[0.017]**	[0.015]	[0.020]
1990s	0.04	0.03	0.04	0.03	0.00	−0.01
	[0.011]***	[0.015]**	[0.014]***	[0.018]*	[0.014]	[0.021]
2000s	−0.02*	−0.02	−0.02	−0.01	−0.01	−0.02
	[0.012]	[0.017]	[0.015]	[0.021]	[0.014]	[0.021]
R^2	0.08	0.08	0.07	0.07	0.02	0.01
Observations	13,720	8,004	9,325	5,788	4,395	2,216

Notes: Unit of observation is an individual lobbyist. All regressions include an experience dummy, indicating the availability of any experience detail as reported in the www.lobbyists.info records, and a constant. Robust standard errors in brackets.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

is a checklist of all the issues a given report is covering (the full list of issues is reported in online Appendix A1, while a sample report is presented in online Appendix A2).

Consider a report r at time t. The report lists a number of issues I_{rt} (where I_{rt} is bound between 1 and 76 possible issues), the name of all L_{rt} lobbyists employed and the dollar amount paid for lobbying services on those issues I_{rt} at time t, V_{rt}. Let us assume that the report value is divided symmetrically across all lobbyists, so that the service of each lobbyist l in the report is valued $V_{lrt} = \frac{V_{rt}}{L_{rt}}$. If we impute this

TABLE 3—WHO MAKES CAMPAIGN CONTRIBUTIONS TO WHOM? THE ROLE OF PARTY AND HOUSE/SENATE LINKS

Lobbyist makes at least one campaign contribution to that legislator in that Congress			
Congress	108th		
	(1)	(2)	(3)
Republican congressman	−0.001 [0.0001]***		−0.001 [0.0001]***
Republican lobbyist	−0.002 [0.0003]***	−0.002 [0.0003]***	
Republican congressman × Republican lobbyist	0.008 [0.0006]***	0.008 [0.0006]***	0.008 [0.0006]***
Democratic lobbyist	0.011 [0.0008]***	0.011 [0.0008]***	
Republican congressman × Democratic lobbyist	−0.011 [0.0008]***	−0.011 [0.0008]***	−0.011 [0.0008]***
Senator	0.004 [0.0002]***		0.004 [0.0002]***
Lobbyist has Senate experience	−0.0001 [0.0004]	−0.0001 [0.0004]	
Lobbyist has House experience	0.006 [0.0020]***	0.006 [0.0020]***	
Senator × lobbyist has Senate experience	0.010 [0.0009]***	0.010 [0.0009]***	0.010 [0.0009]***
House representative × lobbyist has House experience	−0.004 [0.0015]**	−0.004 [0.0015]**	−0.004 [0.0015]**
Congressman fixed effects	No	Yes	No
Lobbyist fixed effects	No	No	Yes
R^2	0.00	0.02	0.02
Observations	4,583,816	4,583,816	4,583,816

(*Continued*)

value symmetrically to all issues, then the dollar amount for issue i and lobbyist l on report r at time t is $V_{ilrt} = \frac{V_{lrt}}{I_{rt}}$. If lobbyist l works on R_{lt} reports then we can indicate by V_{ilt} the value of lobbying on issue i so that $V_{ilt} = \sum_{r=1}^{R_{lt}} V_{ilrt}$. We sum V_{ilt} across all active years for lobbyist l to obtain V_{il}. Using these dollar values as weights, we compute for each lobbyist l an issue-based Herfindahl Index (HHI) which measures how concentrated this lobbyist's assignments are across all possible issues I:

$$HHI_l = \sum_{i=1}^{I} \left(\frac{V_{il}}{V_l}\right)^2,$$

where $V_l = \sum_{i=1}^{I} V_{il}$.

As a complementary measure, we also generate a dummy variable called "specialist" that equals 1 if a lobbyist spends (in dollar terms) at least one-quarter of his assignments in each active year on the same issue, as well as a dummy

TABLE 3—WHO MAKES CAMPAIGN CONTRIBUTIONS TO WHOM?
THE ROLE OF PARTY AND HOUSE/SENATE LINKS (*Continued*)

Lobbyist makes at least one campaign contribution to that legislator in that Congress			
Congress	107th		
	(4)	(5)	(6)
Republican congressman	−0.0002 [0.0001]**		−0.0002 [0.0001]**
Republican lobbyist	−0.002 [0.0003]***	−0.002 [0.0003]***	
Republican congressman × Republican lobbyist	0.007 [0.0006]***	0.007 [0.0006]***	0.007 [0.0006]***
Democratic lobbyist	0.008 [0.0008]***	0.008 [0.0008]***	
Republican congressman × Democratic lobbyist	−0.009 [0.0007]***	−0.009 [0.0007]***	−0.009 [0.0007]***
Senator	0.002 [0.0001]***		0.002 [0.0001]***
Lobbyist has Senate experience	0.0002 [0.0004]	0.0002 [0.0004]	
Lobbyist has House experience	0.007 [0.0022]***	0.007 [0.0022]***	
Senator × lobbyist has Senate experience	0.009 [0.0009]***	0.009 [0.0009]***	0.009 [0.0009]***
House representative × lobbyist has House experience	−0.004 [0.0017]**	−0.004 [0.0017]**	−0.004 [0.0017]**
Congressman fixed effects	No	Yes	No
Lobbyist fixed effects	No	No	Yes
R^2	0.00	0.01	0.02
Observations	3,992,934	3,992,934	3,992,934

Notes: Unit of observation is a lobbyist-politician pair. Within each Congress, we restrict ourselves to the subset of lobbyists for whom we could find background information on www.lobbyist.info and are active during that cycle and to the subset of politicians that are members of Congress during that cycle. Robust standard errors in brackets are clustered at the lobbyist level.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

variable called "generalist" that equals 1 if a lobbyist never spends (i.e., in no active year) more than one-quarter of his assignments on the same issue.[21]

Across all years and all lobbyists, our expertise measures lead us to qualify about one-quarter of lobbyists as specialists and about another quarter as generalists; the average issue-based HHI in the lobbyist panel is 0.34. The share of specialists is

[21] The measures of specialization we propose are subject to both downward and upward sources of bias. First, there are typically multiple lobbyists assigned to a given lobbying report (the mean across reports is 3; the median is 2), and it is possible that not all the lobbyists whose names are listed on a report cover all the issues associated with the report. Because we do not observe when such within-report specialization occurs, we cannot account for it; this will lead us to underestimate how specialized a given lobbyist is. Second, because lobbyists typically do not work for many years in our data (the average number of active years is about four), our proposed specialization measures may mistakenly classify as specialists those lobbyists that appear on only a very limited number of reports or work for a very limited number of years; this will lead us to overestimate the degree of specialization.

TABLE 4—CORRELATES OF LOBBYISTS' EXPERTISE

	Specialist ($Y = 1$)					
Sample	All		External		In-house	
Restrict to at least four active years?	No	Yes	No	Yes	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)
Former Member of Congress	−0.02	−0.03	−0.06	−0.05	0.36	0.19
	[0.040]	[0.040]	[0.042]	[0.042]	[0.129]***	[0.142]
Republican	−0.04	−0.04	−0.04	−0.05	−0.04	−0.04
	[0.016]**	[0.017]***	[0.018]**	[0.018]**	[0.036]	[0.044]
Democrat	−0.05	−0.06	−0.06	−0.07	−0.01	−0.04
	[0.017]***	[0.018]***	[0.019]***	[0.019]***	[0.042]	[0.051]
Experience in/as:						
House (not rep.)	0.02	0.09	0.02	0.08	0.02	0.27
	[0.048]	[0.047]*	[0.051]	[0.049]*	[0.136]	[0.178]
Senate (not senator)	−0.01	0.03	0.00	0.04	−0.05	−0.02
	[0.016]	[0.016]*	[0.017]	[0.018]**	[0.038]	[0.046]
White House	−0.09	−0.05	−0.10	−0.06	−0.05	0.07
	[0.027]***	[0.026]**	[0.029]***	[0.027]**	[0.079]	[0.091]
Aide	0.00	0.03	−0.01	0.04	0.03	0.01
	[0.016]	[0.016]**	[0.018]	[0.018]**	[0.039]	[0.045]
Clerk	0.05	−0.03	0.05	−0.03	−0.04	−0.06
	[0.034]	[0.038]	[0.035]	[0.039]	[0.127]	[0.179]
Counsel	−0.02	0.00	−0.04	0.00	0.03	−0.02
	[0.016]	[0.016]	[0.018]**	[0.018]	[0.044]	[0.052]
Experience in the:						
1960s	0.07	0.07	0.06	0.06	0.05	0.14
	[0.036]*	[0.036]**	[0.038]	[0.037]	[0.124]	[0.148]
1970s	−0.03	0.02	−0.03	0.02	−0.05	−0.02
	[0.021]	[0.021]	[0.022]	[0.022]	[0.068]	[0.075]
1980s	−0.03	0.00	−0.03	−0.01	−0.01	0.04
	[0.018]*	[0.018]	[0.019]	[0.019]	[0.055]	[0.059]
1990s	−0.02	0.02	−0.03	0.01	0.01	0.06
	[0.019]	[0.019]	[0.020]	[0.020]	[0.051]	[0.059]
2000s	0.05	−0.02	0.06	−0.01	−0.04	−0.14
	[0.020]**	[0.021]	[0.022]***	[0.023]	[0.050]	[0.061]**
R^2	0.00	0.00	0.01	0.01	0.00	0.01
Observations	13,720	8,004	9,325	5,788	4,395	2,216

(*Continued*)

higher for external than for in-house lobbyists. Bertrand, Bombardini, and Trebbi (2011) report a detailed analysis of the degree of specialization across lobbying firms and an analysis of the trends in the number of specialists over time.

Analogously to Table 2, Table 4 relates specialization to lobbyist's biographical information.[22] The unit of observation is a lobbyist and all lobbyists are equally weighted in these OLS (ordinary least squares) regressions. We present regressions both for all lobbyists (odd columns) and for those with at least four years of

[22] The sample here is of course smaller: i.e., limited to the subset of lobbyists we could identify in www.lobbyist.info and for whom detailed biographical data was available.

TABLE 4—CORRELATES OF LOBBYISTS' EXPERTISE (*Continued*)

	Issue-based HHI					
Sample	All		External		In-house	
Restrict to at least four active years?	No	Yes	No	Yes	No	Yes
	(7)	(8)	(9)	(10)	(11)	(12)
Former member of Congress	−0.01	−0.04	−0.03	−0.06	0.15	0.18
	[0.028]	[0.030]	[0.030]	[0.031]*	[0.093]	[0.112]
Republican	−0.06	−0.08	−0.08	−0.10	−0.04	−0.04
	[0.012]***	[0.013]***	[0.013]***	[0.014]***	[0.026]	[0.035]
Democrat	−0.07	−0.08	−0.09	−0.10	−0.03	−0.06
	[0.012]***	[0.014]***	[0.013]***	[0.014]***	[0.031]	[0.040]
Experience in/as:						
House (not rep.)	0.03	0.05	0.03	0.04	−0.02	0.18
	[0.034]	[0.036]	[0.036]	[0.036]	[0.099]	[0.141]
Senate (not senator)	−0.02	−0.01	−0.02	−0.01	−0.03	−0.04
	[0.011]*	[0.012]	[0.012]*	[0.013]	[0.027]	[0.036]
White House	−0.04	−0.03	−0.05	−0.04	−0.05	0.02
	[0.019]**	[0.020]	[0.020]**	[0.020]**	[0.058]	[0.072]
Aide	−0.02	0.00	−0.04	0.00	0.03	0.01
	[0.011]*	[0.012]	[0.013]***	[0.013]	[0.028]	[0.036]
Clerk	0.04	0.03	0.03	0.03	−0.05	−0.12
	[0.024]*	[0.029]	[0.025]	[0.029]	[0.092]	[0.141]
Counsel	0.02	0.03	0.01	0.02	0.00	−0.03
	[0.012]*	[0.012]**	[0.012]	[0.013]	[0.032]	[0.041]
Experience in the:						
1960s	0.08	0.08	0.08	0.07	0.13	0.08
	[0.026]***	[0.027]***	[0.027]***	[0.028]**	[0.090]	[0.117]
1970s	0.03	0.04	0.04	0.04	−0.08	−0.06
	[0.015]**	[0.016]**	[0.016]**	[0.016]**	[0.049]	[0.059]
1980s	0.01	0.01	0.00	0.00	0.01	0.03
	[0.013]	[0.013]	[0.014]	[0.014]	[0.040]	[0.047]
1990s	−0.02	0.00	−0.02	−0.01	0.01	0.05
	[0.013]	[0.014]	[0.014]	[0.015]	[0.037]	[0.047]
2000s	0.01	−0.02	0.01	−0.01	−0.01	−0.06
	[0.014]	[0.016]	[0.015]	[0.017]	[0.036]	[0.048]
R^2	0.01	0.02	0.03	0.03	0.00	0.01
Observations	13,720	8,004	9,325	5,788	4,395	2,216

Notes: Unit of observation is an individual lobbyist. All regressions include an experience dummy and a constant. Robust standard errors in brackets. HHI indicates a congressional issue-based Herfindahl index constructed from dollar values attributed to each issue covered by a lobbyist from individual SOPR reports.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

presence in the SOPR data (even columns). The dependent variable in the first six columns is the "specialist" dummy; the dependent variable in the last six columns is the issue-based HHI. The main theme that emerges from this table is that lobbyists with prior political experience or political affiliations are less likely to be experts on specific topics. For example (column 2), lobbyists with prior association with the Republican or Democratic Party are about five percentage points less likely to

be specialists. These patterns appear to be more systematic and more precisely estimated among external lobbyists.[23]

III. The Importance of Connections: Evidence from Lobbyists' and Politicians' Issue Coverage

In this section, we provide evidence that lobbyists' connections to specific politicians are a significant determinant of the lobbyists' work assignment. We first show that whom lobbyists give to (and most likely whom lobbyists know) is systematically correlated with what issues they work on. In support of a causal interpretation of this pattern, we further show that lobbyists switch issues in a predictable way as the legislators they are connected to switch committee assignments.

A. *Are Connections Related to Issue Coverage?*

The nature of the empirical exercise we perform in Table 5 is as follows. We start with the pool of all senators and House representatives in a given Congress. We then use committee assignment information to determine the specific lobbying issues each of these members of Congress are particularly tied to in that Congress.[24] For instance, the powerful House Appropriations committee maps into the SOPR lobbying Budget issue (BUD). We then create a dataset that includes all possible lobbyist-legislator pairs in a given Congress by crossing the pool of active lobbyists with the pool of active lawmakers.

For each lobbyist-legislator pair, it is possible to construct some measures of the *issue overlap* between the legislator and the lobbyist in the pair. As a first measure we simply use counts of the number of issues a given legislator is assigned to (given his or her committee position in that Congress), that also appear in at least one of the lobbying records associated with the lobbyist during that session of Congress. We also define a dummy variable that equals 1 for a lobbyist-legislator pair if the lobbyist's records during that session of Congress cover all the issues assigned to the legislator in that Congress, 0 otherwise.

In this sample of all possible lobbyist-legislator pairs in a given Congress, we then test whether the issue overlap between the lobbyist and legislator in the pair is systematically larger when the pair actually exists in the campaign contribution data: e.g., when the lobbyist made a campaign contribution to that legislator in any of the two years that Congress was in session. As in Table 3, we perform our analysis separately by Congress and present results for the 107th and 108th Congress. (We

[23] We also check that what we measure as specialization is not systematically related to specific issues that are more ideological, rather than information intensive. We construct specialist lobbyists' shares (out of the total number of lobbyists active on each issue) for Religion (REL), Firearms/Guns/Ammunitions (FIR) and Family Issues/Abortion/Adoption (FAM). The shares of specialists over the full sample are, respectively, 6.5 percent, 7.7 percent, and 14.6 percent of all lobbyists working on those issues. Within these three issues we observe average shares of specialists not particularly higher than average. They are lower, if anything. For example, consider three alternative issues that appear substantially more ideologically neutral, like Agriculture (AGR), Budget (BUD), and Defense (DEF). The shares of specialists are, respectively, 17.3 percent, 14.0 percent, and 12.0 percent of all lobbyists working on those issues.

[24] A list of committees and corresponding issues is in online Appendix A3.

TABLE 5— DO CONNECTIONS THROUGH CAMPAIGN CONTRIBUTIONS CORRELATE WITH OVERLAPPING ISSUES BETWEEN LOBBYISTS AND CONGRESSMEN?

Congress	108th			
	Number of issues covered by the legislator in Congress (t) that the lobbyist covers in Congress (t)		Lobbyist works on all the issues covered by the legislator in Congress (t) ($Y = 1$)	
	(1)	(2)	(3)	(4)
Lobbyist made at least one campaign contribution to that congressman in Congress (t)? ($Y = 1$)	0.913 [0.0531]***	0.435 [0.0261]***	0.029 [0.0024]***	0.019 [0.0031]***
Republican lobbyist	0.576 [0.0538]***		0.014 [0.0018]***	
Republican congressman × Republican lobbyist	0.031 [0.0031]***	0.036 [0.0032]***	0.001 [0.0002]***	0.001 [0.0002]***
Democratic lobbyist	0.452 [0.0542]***		0.014 [0.0019]***	
Republican congressman × Democratic lobbyist	0.043 [0.0036]***	0.038 [0.0034]***	0.001 [0.0002]***	0.001 [0.0002]***
Lobbyist has Senate experience	0.045 [0.0513]		0.004 [0.0023]*	
Senator × lobbyist has Senate experience	0.299 [0.0334]***	0.304 [0.0336]***	−0.014 [0.0020]***	−0.014 [0.0020]***
Lobbyist has House experience	0.312 [0.1726]*		−0.009 [0.0010]***	
House representative × lobbyist has House experience	−0.277 [0.0781]***	−0.279 [0.0782]***	0.010 [0.0046]**	0.010 [0.0046]**
Republican congressman		0.083 [0.0010]***		0.019 [0.0001]***
Senator		0.828 [0.0102]***		−0.102 [0.0007]***
Constant	1.0334 [0.0138]***	0.9766 [0.0027]***	0.1115 [0.0006]***	0.1235 [0.0002]***
R^2	0.21	0.42	0.76	0.04
Observations	4,583,816	4,583,816	4,583,816	4,583,816
Lobbyist FEs	No	Yes	No	Yes
Congressman FEs	Yes	No	Yes	No

(*Continued*)

obtained qualitatively similar results for the other sessions of Congress covered in our sample time period and omit them for brevity.)

Note that for each measure of overlap and Congress we report the results of two regressions: one with legislator fixed effects and one with lobbyist fixed effects; such fixed effects are important since, for example, the overlap measures we have defined may largely vary across legislators simply based on whether they are assigned to narrowly-focused committees or committees with broader mandates. Also, robust standard errors are clustered at the lobbyist level.

There is systematic evidence across all Congresses that the existence of a campaign contribution connection between a lobbyist and a legislator is associated with a higher likelihood that the lobbyist and legislator work on the same issues. For instance, the likelihood of a perfect issue overlap between a lobbyist and a legislator (e.g., the lobbying records associated with that lobbyist during that session of

TABLE 5— DO CONNECTIONS THROUGH CAMPAIGN CONTRIBUTIONS CORRELATE WITH OVERLAPPING ISSUES BETWEEN LOBBYISTS AND CONGRESSMEN? (*Continued*)

Congress	107th			
	Number of issues covered by the legislator in Congress (t) that the lobbyist covers in Congress (t)		Lobbyist works on all the issues covered by the legislator in Congress (t) ($Y = 1$)	
	(5)	(6)	(7)	(8)
Lobbyist made at least one campaign contribution to that congressman in Congress (t)? ($Y = 1$)	1.023 [0.0670]***	0.400 [0.0361]***	0.024 [0.0027]***	0.017 [0.0039]***
Republican lobbyist	0.519 [0.0616]***		0.011 [0.0018]***	
Republican congressman × Republican lobbyist	0.017 [0.0026]***	0.021 [0.0026]***	0.002 [0.0003]***	0.003 [0.0003]***
Democratic lobbyist	0.521 [0.0641]***		0.013 [0.0018]***	
Republican congressman × Democratic lobbyist	0.034 [0.0032]***	0.029 [0.0029]***	0.003 [0.0003]***	0.003 [0.0003]***
Lobbyist has Senate experience	0.087 [0.0588]		0.003 [0.0022]	
Senator × lobbyist has Senate experience	0.326 [0.0383]***	0.331 [0.0384]***	−0.012 [0.0020]***	−0.012 [0.0020]***
Lobbyist has House experience	0.205 [0.1767]		−0.008 [0.0010]***	
House representative × lobbyist has House experience	−0.228 [0.0796]***	−0.230 [0.0799]***	0.010 [0.0042]**	0.010 [0.0042]**
Republican congressman		0.054 [0.0008]***		0.048 [0.0001]***
Senator		0.850 [0.0115]***		−0.101 [0.0007]***
Constant	1.049 [0.0152]***	1.0088 [0.0030]***	0.1387 [0.0006]***	0.1342 [0.0001]***
R^2	0.23	0.39	0.81	0.03
Observations	3,992,934	3,992,934	3,992,934	3,992,934
Lobbyist FEs	No	Yes	No	Yes
Congressman FEs	Yes	No	Yes	No

Notes: Unit of observation is a lobbyist-politician pair. Within each Congress, we restrict ourselves to the subset of active lobbyists and to the subset of politicians who are Members of Congress during that cycle. Robust standard errors in brackets are clustered at the lobbyist level.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Congress cover all the issues associated with the legislator's committee) in a random pair in the 108th Congress is 11.5 percent. The likelihood increases by 2.9 percentage points, or about 25 percent if the lobbyist made a campaign contribution to that legislator (column 3, Table 5), controlling for whether the lobbyist and legislator share political orientation or House or Senate affiliations.[25]

[25] We also replicated the analysis in Table 5 under the alternative measure of connection proposed in Blanes i Vidal, Draca, and Fons-Rosen (2012a) and compared it to our FEC-based one. We found no statistically significantly larger issue overlap for the connected pairs defined under the Blanes i Vidal measure; conversely, we do find statistically significantly larger-issue overlap for the connected pairs defined using the FEC-based measure (consistent with the findings in Table 5). One interpretation of this result is that lobbyists have several important connections, some of which

B. *Do Preexisting Connections Predict Future Issue Coverage?*

The point of departure of this section is the finding in Table 5 that in any given period, there is a correlation between whom lobbyists know and what they work on. There are, however, many different ways to interpret such a correlation. We are particularly interested in separating two possible interpretations. The first interpretation is that what determines the issue a lobbyist works on is whom he or she knows: because a lobbyist knows a given politician, he or she has influence over that politician and therefore is particularly effective in affecting outcomes related to the issues this politician's committee covers. In a sense, under this first interpretation, whom a lobbyist knows comes first and this determines in great part what he or she works on. A second interpretation is that what a lobbyist knows determines which politician he or she is more likely to establish some connections with. Under this second interpretation, lobbyists are defined by what they know more than whom they know. However, there is some friction in the communication of this expertise, maybe because of lawmakers' overburdened schedule and limited attention span. Campaign contributions are then a way to get politicians' attention; they serve as some grease in the transmission of information and expertise between lobbyists and lawmakers.

In Table 6 we present an empirical test of whether lobbyists *stick* to the people they know when it comes to what issues they work on. If lobbyists essentially provide interest groups with access to politicians in their *circle of influence*, one would expect lobbyists' job assignments to be determined by the identity of the politicians in charge, independent of the specific issues being decided upon. Hence a lobbyist should *follow* a congressman whom he or she knows as the congressman moves from one committee assignment to another.

To perform this test, we isolate the subset of congressmen who switch committee assignments between Congress t and Congress $t+1$. We form all the possible pairs between congressmen in that subset and the lobbyists in our sample. We then ask in Table 6 whether the overlap of new issues covered by the lobbyist and the congressman in $t+1$ can be predicted by whether the pair was connected in the *prior* Congress (e.g., Congress t). The dependent variable is $N_{lp,t+1}$, the number of new issues for politician p in Congress $t+1$, that are also new to lobbyist l in that Congress. We regress this new issue overlap on the connection dummy C_{lpt} employed in Table 5, which is equal to 1 if politician p is connected to lobbyist l in Congress t. We control for both overlap in Congress t, O_{lpt}, and for the overlap between the lobbyist in Congress t and congressman in Congress $t+1$, a *forward overlap* measure we denote by $F_{lp,t+1}$. The latter control captures the fact that the lobbyist may be working already on the issues the legislator takes up as new assignment. Our *new issue overlap* estimating equation is

$$(1)\quad N_{lp,t+1} = \alpha_0 + \alpha_1 C_{lpt} + \alpha_2 O_{lpt} + \alpha_3 F_{lp,t+1} + \gamma_p + \varphi_l + \theta_t + \varepsilon_{lp,t+1},$$

with senators or congressmen who formerly employed them, but others as well, which appear in the FEC-connected pairs, but not in the Blanes i Vidal, Draca, and Fons-Rosen (2012a) pairs. Another interpretation is that having been a former aide does not always imply a lobbying relationship, or that the connections might have gotten cold. In fact, when we look at the issue overlap for the 59.5 percent pairs in Blanes i Vidal, Draca, and Fons-Rosen (2012a) that the FEC does not match we find that it is significantly lower than for the 40.5 percent that the FEC does match.

TABLE 6—DO LOBBYISTS FOLLOW POLITICIANS THEY ARE CONNECTED TO AS THOSE POLITICIANS SWITCH COMMITTEE ASSIGNMENTS?

	(1)	(2)	(3)	(4)
Panel A. Number of new issues for the legislator and for the lobbyist in Congress $(t+1)$				
Lobbyist made at least one campaign contribution to that congressman in Congress (t)? $(Y=1)$	0.123 [0.008]***	0.119 [0.008]***	0.04 [0.007]***	0.03 [0.007]***
Number of new issues for the legislator in Congress $(t+1)$ that the lobbyist covers in Congress (t)	0.166 [0.002]***	0.133 [0.002]***	0.135 [0.002]***	0.09 [0.002]***
Number of issues covered by the legislator in Congress (t) that the lobbyists covers in Congress (t)	0.004 [0.000]***	0.008 [0.000]***	−0.023 [0.001]***	−0.03 [0.001]***
Observations	8,834,550	8,834,550	8,834,550	8,834,550
Congress FEs	Yes	Yes	Yes	Yes
Lobbyist FEs	No	No	Yes	Yes
Congressman FEs	No	Yes	No	Yes

	(5)	(6)	(7)	(8)
Lobbyist made at least one campaign contribution to that congressman in Congress (t)? $(Y=1)$	0.031 [0.0110]***	0.044 [0.008]***		
Lobbyist made at least one campaign contribution to that congressman in each Congress the pair is observed in the data, up to Congress (t)? $(Y=1)$			0.027 [0.01]***	0.056 [0.013]***
Number of new issues for the legislator in Congress $(t+1)$ that the lobbyist covers in Congress (t)	0.083 [0.002]***	0.076 [0.002]***	0.09 [0.002]***	0.084 [0.002]***
Number of issues covered by the legislator in Congress (t) that the lobbyists covers in Congress (t)	−0.037 [0.001]***	−0.017 [0.001]***	−0.03 [0.000]***	−0.023 [0.001]***
Number of issues covered by the legislator in Congress $(t-1)$ that the lobbyists covers in Congress $(t-1)$		−0.002 [0.001]*		
Inverse Mills ratio from selection equation	0.004 [0.002]***	−0.034 [0.004]***		
Observations	8,834,550	3,555,777	8,834,550	6,583,218
Congress FEs	Yes	Yes	Yes	Yes
Lobbyist FEs	Yes	Yes	Yes	Yes
Congressman FEs	Yes	Yes	Yes	Yes (t)>=107th Congress

	(5)	(6)
Panel B. Selection equation for legislators changing of committee. Committee change by legislator		
Number of openings of congressional committee seats above current average Grosewart rank of legislator	0.005 [0.001]***	0.005 [0.001]***
Chamber seniority of legislator	−0.130 [0.013]***	−0.130 [0.013]***
Congress FEs	Yes	Yes
Observations	1,882	1,882

Notes: Unit of observation is a lobbyist-politician pair. Within each Congress, we restrict ourselves to the subset of active lobbyists in that cycle and to the subset of active politicians that switch committee assignments between two consecutive Congresses. Robust standard errors in brackets are clustered at the lobbyist level in panel A and politician level in panel B.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

where $\varepsilon_{lp,t+1}$ is a mean zero i.i.d. error term and γ_p, φ_l, θ_t, are, respectively, politician, lobbyist, and Congress-specific constants. This specification is amended in various ways to check for robustness as indicated in the different columns of Table 6.

We also address the potentially nonrandom nature of the set of switchers with a selection model similar to Heckman (1979). Although the large literature on committee assignment does not address the role of lobbyists in facilitating politicians' movement across committees, it is worth discussing it in our context.[26] Two considerations are in order. First, if lobbyists connected to politicians could influence systematically their committee assignments, then this would point to connections being important. It is otherwise not clear why a lobbyist would want a specific legislator on a specific committee. Second, it is not obvious in what direction selection would affect our estimates. Nevertheless we specify a two-step procedure that corrects for sample selection as follows. We denote by S_{pt} an indicator variable that is 1 if politician p switches to at least a new committee in period t. We then specify the probability of switching as a function of two variables, $Above_{pt}$, and $Tenure_{pt}$, excluded from (1) that we construct from existing data on committee ranking and seniority. More specifically, the variable $Tenure_{pt}$ measures the chamber seniority of the legislator p at the time t of the potential change. The variable $Above_{pt}$ measures the number of seat openings in committees that are better than the average committee seat held by p in Congress t: i.e., the number of seats in committees with an historical Grosewart rank above the average of the committee portfolio held by that legislator before the potential change (see footnote 18). The estimating selection equation is as follows:

$$\Pr(S_{pt} = 1) = \delta_0 + \delta_1 Above_{pt} + \delta_1 Tenure_{pt} + \gamma_p + \mu_{pt}, \tag{2}$$

where μ_{pt} is a normally distributed i.i.d. error term. We estimate (2) by Probit and include the predicted inverse Mills ratio $\hat{\lambda}_{pt}$ in our issue overlap equation (1) as a selection correction term.

Across different specifications in Table 6, we find evidence that lobbyists follow the lawmakers that they have connections with when those lawmakers switch committee assignments. Specifically, we find a larger overlap in Congress $t + 1$ when the lobbyist had previously made campaign contributions to the politician in the pair. This result is robust to controlling for politician fixed effects (column 2), lobbyist fixed effects (column 3), or both (columns 4–6). In column 5 we include the selection correction term described above with marginal changes to the estimated coefficients. The selection equation estimates are reported in panel B of Table 6.

Although the effect of connections survives the demanding inclusion of lobbyists and politicians fixed effects, one may still be concerned about the possibility that other time-varying characteristics may be driving both a pair's connection and their joint entry into new topics. We therefore introduce in column 6 an additional control that captures issue overlap in an earlier period (Congress $t - 1$) in an attempt to

[26] See Frisch and Kelly (2004); Krehbiel (1990); Groseclose (1994); Adler and Lapinski (1997); Rohde and Shepsle (1973). The most closely related issue discussed in this literature is whether constituency interests affect a legislator's committee requests and whether those requests are satisfied by the committee on committees. Frisch and Kelly (2004) show that the evidence weakly supports these hypotheses. Moreover, in a comprehensive book on the topic, Frisch and Kelly (2006) do not mention lobbyists as determinants of committee assignments.

compare connected and unconnected pairs that have otherwise similar issue coverage progress over time. The estimates are reassuringly qualitatively unchanged.

Finally, we also verified in columns 7 and 8 of Table 6 the robustness of our results to a more stringent measure of connection for each lobbyist-politician pair. Rather than solely relying on whether the pair was connected in the Congress that precedes the politician's committee reassignment, we define a pair as connected *only if* the lobbyist made at least one campaign contribution to the politician in *each* of the Congresses the pair is present in our data, up to the Congress which precedes the politician's committee reassignment (i.e., up to Congress t). This more stringent measure should further weaken any concern about the endogeneity of connections to the committee reassignment. We find qualitatively similar results when we use this alternative measure of connection (column 7). This remains true when we restrict our analysis to the 107th to 109th Congresses, where we have longer histories for each lobbyist-politician pair (column 8 of Table 6).

The magnitude of the effect of connections is rather large. Considering that the overall mean overlap of new issues at $t + 1$ is 0.16, the estimated effect ranges between about 17 percent and 77 percent higher overlap for connected lobbyists and politicians, depending on the source of variation we consider (i.e., the set of fixed effects included). This indicates that a previous connection increases the chance of a lobbyist following a politician to her newly assigned topics by a substantial amount. This pattern is, we believe, an indication that connections are important determinants of what lobbyists work on.

In online Appendix Table A4, we show that there is lobbyist-level heterogeneity in the patterns of "following" reported in Table 6. Specifically, we repeat the specifications in columns 2 to 4 of Table 6 separately for four subsamples of the data: the subsample of lobbyist-politician pairs that share the same party affiliation, the subsample of lobbyist-politician pairs that have opposite party affiliations, the subsample of lobbyists that are specialists, and the subsample of lobbyists that are nonspecialists. We find that lobbyists who are connected to a politician are much more likely to follow that politician as he/she switches committee assignment if they also share the same party affiliation (in fact, we find no following among opposite-party pairs). We also find substantially more following by lobbyists who are nonspecialists (although this difference is reduced in a specification that includes both lobbyists and congressmen fixed effects). In summary, connections to politicians appear particularly relevant in determining what partisan, nonspecialist lobbyists work on.

In online Appendix Table A5 we repeat the analysis in Table 6 for the sample of freshmen (i.e., congressmen that enter Congress at $t + 1$). Notice that we still observe contributions during the campaign stage and therefore all variables of interest, except for issue overlap at t, can be defined for this sample. The results are largely confirmed: as freshmen are elected and are assigned to given committees, lobbyists who gave them campaign contributions start working on the same issues (controlling for whether the lobbyist was already working on those issues).

IV. The Importance of Expertise: an "Opposite Bias" Test

A role for connections does not imply that lobbyists' expertise about certain topics is irrelevant to their job. Once access has been gained, the lobbyists may still

provide useful information to politicians. In this section we present evidence aimed at detecting the presence of information transmission between the lobbyist and the politician, and hence a role for lobbyists' expertise. Absent direct measures of informational flows, which are rarely observed, all tests of informational lobbying, by necessity, need to be indirect. At the same time one would require such tests to be sufficiently discriminating across alternative hypotheses. The goal is to reject the null hypothesis of no informational lobbying by presenting evidence that can be parsimoniously explained only by informational lobbying models. These conditions make sharp tests of this kind rare in the literature.

Our test is based on the theoretical literature in multiple-sender communication. For instance, consider the cheap talk setup in Krishna and Morgan (2001) and Grossman and Helpman (2001) where two informed but biased lobbyists send messages to influence the action of a single uninformed policymaker. The messages sent by the lobbyists are aimed at informing the politician about the state of nature, which in turn determines the optimal policy action to take. Importantly, when the two lobbyists have opposite biases (relative to the policymaker), the policymaker can learn more precisely what the true state of nature is (and could also become fully informed under some conditions). This is because the credibility of a message sent by a lobbyist is enhanced by the presence of another lobbyist who also sends a message and this mechanism prevents both lobbyists from "exaggerating" their messages to bias policy in their favor. Interestingly, Krishna and Morgan (2001) show that not only the policymaker but also both lobbyists benefit, relative to the case of only one lobbyist sending a message. Notice that, although the mechanism is slightly different, an analogous prediction holds in costly signaling models, as in Battaglini and Benabou (2003). We take this prediction as a starting point to construct our test.

We focus on the set of lobbyists connected to a given politician based on our FEC data. A precise measure of the direction of bias of the lobbyist is given by the political affiliation of the lobbyist, which we derive from www.lobbyists.info. We test whether the share of *opposite bias* lobbyists is larger for the set of specialist lobbyists than for nonspecialists. In particular, for each politician p and Congress t we generate the shares, S_{ptj} of lobbyists connected to the politician that have an opposite party affiliation; we do this separately for the subset of specialists, $j = 1$, and the subset of nonspecialists, $j = 0$. We then estimate the following fixed effect specification:

$$S_{ptj} = \delta_1 + \delta_2 I(j = 1) + \gamma_p + \delta_t + \eta_{ptj},$$

where $I(\cdot)$ is the indicator function.

Information acquisition on the part of the legislator would require the presence of opposite-party lobbyists especially among the specialists, the subset of lobbyists in which informational lobbying is more likely to be detected and relevant, or $\delta_2 > 0$. This would lend empirical support to Krishna and Morgan's result.

Notice the disciplining effect of the test. Alternative interpretations of lobbying, such as a pure favor exchange hypothesis, do not supply a clear intuition for $\delta_2 > 0$. A quid pro quo argument, for instance, would justify connections to an overall higher number of lobbyists from the same political party: i.e., an S_{pt} substantially below 0.5 (it may be cheaper to buy favors from a politician with the same policy views). But a quid pro quo model would provide no intuitive reason for why the share of opponent

TABLE 7—POLITICIANS AND EXPERT LOBBYISTS

	Share of lobbyists from opposite party connected to the politician by specialist/nonspecialist status				
	(1)	(2)	(3)	(4)	(5)
Specialist? ($Y = 1$)	0.093 [0.010]***	0.098 [0.011]***	0.111 [0.036]***	0.117 [0.030]***	0.107 [0.028]***
Mean of share of opposite-party nonspecialists (percent of all connected nonspecialists)	0.170	0.170	0.172	0.180	0.189
Observations	4,655	4,655	822	900	947
Congress FEs/Congress number	Yes	Yes	106th	107th	108th
Congressman FEs	No	Yes	Yes	Yes	Yes
	(6)	(7)	(8)	(9)	
Specialist? ($Y = 1$)	0.084 [0.022]***	0.069 [0.019]***	0.149 [0.016]***	0.047 [0.015]***	
Mean of share of opposite-party nonspecialists (percent of all connected nonspecialists)	0.168	0.142	0.121	0.218	
Observations	1,022	964	2,282	2,373	
Congress FEs/Congress number	109th	110th	Yes	Yes	
Congressman FEs	Yes	Yes	Yes	Yes	

Notes: Unit of observation is an individual politician. Shares are constructed from connected lobbyists with explicit party affiliations in www.lobbyists.info. Standard errors in brackets clustered at the politician level. Samples/fixed effects structure for columns 1–7 is described below estimates. Column 8 includes only Democrat congressmen and column 9 includes only Republicans.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

party lobbyists should be systematically higher when computed for issue specialists compared to nonspecialists connected to a given politician.

Table 7 reports the results by pooling all politicians and Congresses. It also splits samples across all the different Congresses and across the political party of the legislator. While the pooled results reassure about the generality of the finding, the sample splits will reassure about specific subsamples not driving our result.

Column 1 of Table 7 reports the estimated differential δ_2 for a specification only including Congress fixed effects, while column 2 adds legislator fixed effects. In the pooled sample, the estimated mean share of nonspecialists from the opposite party is about 17 percent, which increases by 9 percentage points when considering the group of specialist lobbyists affiliated to the politician. This is an increase of about 53 percent, so particularly sizable, and stable across specifications. Splitting our analysis Congress by Congress in columns 3–7 produces estimates of δ_2 ranging from 7 percent in the 110th to 12 percent in the 107th Congress. All estimates are statistically significant at 1 percent confidence level. Splitting between Democrat (column 8) and Republican legislators (column 9) produces strong and significant differentials across samples as well. We estimate δ_2 at 15 percent for Democrats and around 5 percent for Republicans, both statistically significant at 1 percent confidence level. Overall, we find that, among connected lobbyists, those of the opposite party of the politician are more likely to be specialists.

While the test we performed in Table 7 provides indirect evidence of a role for expertise among connected lobbyists, it does not provide much guidance on the relative importance of access versus expertise in defining lobbyists' job. In Section V,

we tackle one aspect of this remaining question by comparing the monetary premia associated with connections and expertise, trying to get at which of these two resources is more scarce. Another useful set of statistics is based on the breakdown of the circle of lobbyists connected to a politician. Opposite-party specialists, which we argue below is the group most likely to be engaged in informational lobbying, account on average for only 7.6 percent of the lobbyists connected to a politician in a given Congress. In contrast, same-party nonspecialists, which behave the most like "followers" of the politicians in their issue assignment (see Table 6 and online Appendix Table A4) account for 59.1 percent of the lobbyists connected to a politician in a given Congress.

V. Connections and Issue Expertise: Evidence from Lobbying Returns

A. *Report-Level Analysis*

In this section, we ask whether lobbyists' connections and issue expertise are equally valued and scarce resources. Specifically, we propose to assess the relative importance of access versus expertise by asking how much these two assets are paid. Unfortunately, we do not have any information on lobbyists' income. But we do observe the price tag associated with each lobbying report. It is therefore possible to assess how the characteristics of the lobbyists that are assigned to a report relate to how much was spent on that report. We perform this analysis in Table 8, limiting the sample to the group of reports filed by external lobbyists. An obvious limitation of this empirical approach is that we cannot isolate the contribution of an individual lobbyist to a given report (recall that most reports have more than one lobbyist assigned to it). In Table 9, we will present an alternative approach where we try to get at individual lobbyists' value-added to a given report by estimating a vector of individual lobbyist fixed effects. The size of the premium on connections compared to expertise is evident in the report-level analysis of Table 8. The unit of analysis is an external lobbying record, as defined in the SOPR data. The dependent variable is the logarithm of the dollar amount attached to that report, $\ln(V_{rt})$. All regressions reported in Table 8 include a vector of year dummies, a vector of dummies for report type (e.g., end-of-year report or mid-year report), and a vector of dummy variables for the issues that are being covered in the report. We also control nonparametrically for the number of lobbyists included in the report (with separate indicator variables for all numbers—from 1 to 62). Finally, all regressions include controls for the average tenure of the lobbyists assigned to the report, as well as the average number of active years among these lobbyists over the entire sample period and the average number of reports per lobbyist on the team per year. For ease of interpretation, we construct two dummy variables. The first equals 1 if there is at least one specialist in one of the issues covered by the report. The second dummy is 1 if there is at least one lobbyist on the report that is connected to a politician that works on an issue in that report.

We find qualitatively similar results across all specifications. Specifically, everything else equal, we find a premium of about 3 to 5 percent for a lobbying report that has a relevant specialist, while that premium is about 8 to 10 percent for a report with a lobbyist who has a relevant connection. Overall, having a specialist on the team comes at a premium, but having connected lobbyists commands a premium twice

TABLE 8—VALUING EXPERTISE AND CONNECTIONS: LOBBYING REPORT ANALYSIS, EXTERNAL LOBBYING ONLY

log (amount)	(1)	(2)	(3)
At least one specialist matching an issue	0.033	0.035	0.051
	[0.004]***	[0.004]***	[0.004]***
At least one connection to a politician covering an issue	0.08	0.097	0.087
	[0.004]***	[0.004]***	[0.005]***
Average tenure	0.001	−0.01	−0.01
	[0.002]	[0.002]***	[0.002]***
Average number of active years	0.008	0.023	0.025
	[0.001]***	[0.002]***	[0.002]***
Average number of reports per lobbyist	−0.001	−0.002	−0.002
	[0.000]***	[0.000]***	[0.000]***
Share former member of Congress			0.121
			[0.013]***
Share Republicans			0.09
			[0.006]***
Share Democrats			0.058
			[0.007]***
Share with experience in/as:			
House (but not as House rep.)			0.016
			[0.016]
Senate (but not as senators)			−0.011
			[0.006]*
White House			0.203
			[0.010]***
Aides			−0.004
			[0.006]
Clerks			0.03
			[0.015]**
Counsels			0.07
			[0.006]***
Any distinctive experience			−0.136
			[0.011]***
Fixed effects for:			
Number of lobbyists included on the report	Yes	Yes	Yes
Report type	Yes	Yes	Yes
Issues covered by the report	Yes	Yes	Yes
Year of report	Yes	Yes	Yes
Only lobbyists in Lobbyist.Info sample?	No	Yes	Yes
R^2	0.25	0.25	0.26
Observations	191,240	165,885	165,885

Notes: Unit of observation is a SOPR report record filed by a registering firm different from the client firm (i.e., filed by external lobbyists). All controls are relative to the pool of individual lobbyists listed on the report, unweighted. Any distinctive experience indicates any experience detail reported in the www.lobbyists.info records. Also included are dummies for lobbyists' experience in the 1960s, 1970s, 1980s, 1990s, and 2000s. Robust standard errors in brackets.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

as large. Given an average report amount V_{rt} of \$63,200, this implies a per-report premium of \$5,056–\$6,320 per connected lobbyist.[27]

[27] The premium is computed per report and thus needs to be further multiplied by the number of reports on which a lobbyist typically works (between 23 and 45 per year on average and assuming that a connected lobbyist works

TABLE 9—VALUING EXPERTISE AND CONNECTIONS: LOBBYIST-LEVEL ANALYSIS, EXTERNAL LOBBYISTS WITH AT LEAST SIX YEARS OF ACTIVE EXPERIENCE ONLY

Lobbyist's estimated fixed effect	(1)	(2)	(3)	(4)	(5)	(6)
Issue-based HHI	−0.233	−0.227	−0.218	−0.231	−0.214	−0.218
	[0.026]***	[0.029]***	[0.027]***	[0.023]***	[0.025]***	[0.029]***
At least one connection	0.07	0.03	0.009			
	[0.017]***	[0.020]	[0.019]			
At least five connections				0.076	0.073	0.055
				[0.016]***	[0.017]***	[0.019]***
Number of active years	−0.014	−0.012	−0.006	−0.018	−0.017	−0.009
	[0.008]*	[0.008]	[0.008]	[0.007]**	[0.007]**	[0.008]
Tenure	0.031	0.04	0.033	0.045	0.045	0.036
	[0.016]	[0.017]**	[0.015]**	[0.014]***	[0.014]***	[0.016]**
Former member of Congress			0.017			0.036
			[0.048]			[0.050]
Republican			0.039			0.032
			[0.024]			[0.025]
Democrat			0.034			0.03
			[0.025]			[0.026]
Experience in/as:						
House (but not as House rep.)			−0.012			−0.024
			[0.061]			[0.064]
Senate (but not as senator)			0.019			0.016
			[0.022]			[0.023]
White House			0.133			0.119
			[0.034]***			[0.036]***
Aide			−0.048			−0.045
			[0.022]**			[0.023]*
Clerk			0.108			0.133
			[0.047]**			[0.049]***
Counsel			0.036			0.033
			[0.022]			[0.023]
Any distinctive experience			−0.071			−0.04
			[0.038]*			[0.040]
Constant	15.055	15.027	15.064	15.067	15.052	15.044
	[0.040]***	[0.046]***	[0.056]***	[0.035]***	[0.039]***	[0.059]***
Observations	3,926	2,830	2,830	3,926	2,830	2,830

(*Continued*)

The last column of Table 8 introduces a number of characteristics of the lobbyists on the report. We find additional premia for most of the variables that describe the political background of the lobbyists on the team. Everything else equal, staffing a lobbying case exclusively with former Members of Congress increases its price by about 12 percent. Teams composed of lobbyists with Democratic and especially Republican affiliations cost more as opposed to lobbyists with no political affiliation. The largest premium we observe is for lobbyists with past experience in the White House.

on reports where he is connected to a politician that works on an issue in that report) to obtain a yearly connection premium. This places the value of a connection in excess of $116,000 per year.

TABLE 9—VALUING EXPERTISE AND CONNECTIONS: LOBBYIST-LEVEL ANALYSIS, EXTERNAL LOBBYISTS WITH AT LEAST SIX YEARS OF ACTIVE EXPERIENCE ONLY (*Continued*)

Lobbyist's estimated fixed effect	(7)	(8)	(9)	(10)	(11)	(12)
Specialist	−0.012	−0.016	−0.005	−0.02	−0.027	−0.009
	[0.017]	[0.019]	[0.022]	[0.017]	[0.021]	[0.020]
At least one connection	0.095	0.062	0.043			
	[0.016]***	[0.019]***	[0.022]*			
At least five connections				0.098	0.094	0.073
				[0.017]***	[0.020]***	[0.020]***
Number of active years	−0.01	−0.008	−0.005	−0.014	−0.013	−0.006
	[0.007]	[0.008]	[0.009]	[0.008]*	[0.009]	[0.008]
Tenure	0.03	0.033	0.026	0.042	0.044	0.031
	[0.015]**	[0.017]**	[0.019]	[0.015]***	[0.018]**	[0.017]*
Former member of Congress			0.085			0.052
			[0.058]			[0.053]
Republican			0.061			0.071
			[0.028]**			[0.026]***
Democrat			0.046			0.053
			[0.029]			[0.027]**
Experience in/as:						
House (but not as House rep.)			−0.001			0.016
			[0.074]			[0.067]
Senate (but not as senator)			0.02			0.013
			[0.027]			[0.024]
White House			0.127			0.145
			[0.041]***			[0.038]***
Aide			−0.03			−0.03
			[0.027]			[0.024]
Clerk			0.103			0.11
			[0.057]*			[0.052]**
Counsel			0.044			0.043
			[0.026]*			[0.024]*
Any distinctive experience			−0.067			−0.063
			[0.046]			[0.042]
Constant	14.928	14.924	14.959	14.964	14.953	14.968
	[0.036]***	[0.043]***	[0.066]***	[0.036]***	[0.046]***	[0.060]***
Observations	3,926	2,830	2,830	3,926	2,830	2,830

Notes: Unit of observation is the individual lobbyist, conditional on being observed at least six years in the sample. Dependent variable is the fixed effect of a report-level value regression. Median regressions. Each observation is weighted by the inverse of the standard error on the estimated fixed effects we use as dependent variable. Any distinctive experience indicates any experience detail reported in the www.lobbyists.info records. Also included are dummies for lobbyists' experience in the 1960s, 1970s, 1980s, 1990s, and 2000s. Robust standard errors at in brackets.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

B. *Lobbyist-Level Analysis*

The report-level analysis above suggests interesting patterns that can be further investigated moving to an individual lobbyist analysis. As indicated above, one of the difficulties with the report-level analysis is that we cannot precisely identify the value added of a specific lobbyist. For a subset of lobbyists that can be observed working

with a diverse set of coworkers, though, it is possible to estimate fixed effects in the dollar amount associated with having their name attached to a lobbying report.

Specifically, we start with a dataset where the unit of observation is at lobbyist × lobbying report-level. We define as dependent variable the logarithm of the total dollar amount associated with that lobbying report $\ln(V_{rt})$ (the same dependent variable as in Table 8, $\ln(V_{rt})$ is now replicated for each lobbyist in the report). We then estimate lobbyist fixed effects in a regression that includes year dummies, a vector of indicator variables for all issues or topics, and nonparametric controls for the number of lobbyists associated with report L_{rt} (e.g., dummies for each possible size of the lobbying team).

Intuitively, it should be clear that such lobbyist fixed effects cannot be estimated for all individuals. Instead, we will only be able to compute fixed effects for those lobbyists that we observe as part of changing teams across lobbying reports. Because of computation intensity and to guarantee lower measurement error in the fixed effect estimates, we restrict the sample to external lobbyists that are active in at least six years over the entire sample period.[28]

Once we have computed the lobbyist's fixed effects, we relate them to each lobbyist's level of expertise, connections and past professional experience in Table 9. We estimate median regressions, which allow us to better address outlier concerns; we also weigh each observation by the inverse of the standard error associated with the estimated fixed effect for that lobbyist/observation further accounting for noise in the estimation.

Before moving to the regression results, we discuss online Figures A1 and A2, which graphically show how the distribution of lobbyist fixed effects relate to both their expertise and their level of connections. We see that the distribution of fixed effects for specialists and nonspecialists are almost identical. When we separate lobbyists into those with high (> 0.33) and low issue-based HHI, we find the distribution of fixed effects for the high HHI group to be more spread out and with more mass toward low fixed effects compared to the distribution of fixed effects for the low HHI group. Hence we observe no premium associated with issue expertise. If anything, those lobbyists that concentrate on fewer issues appear to come at a discount.

We also plotted the distributions of lobbyist fixed effects for those with no political connection and those with at least one connection (top), as well as for those with five connections or more in any given Congress and those with less than five connections (bottom). In both cases, it is very clear that the distribution of fixed effects for those with some or many connections is shifted to the right compared to the distribution for those with no or few connections.

The regression analysis in Table 9 qualitatively confirms these patterns. Issue experts do not receive a premium.[29] In contrast, there is a positive and significant premium associated with having more political connections. The premium appears to be especially large for those lobbyists that entertain many connections to politicians (6 to 10 percent). Even after controlling for connections, we still find a large premium associated with some of the political background characteristics. In

[28] For estimating each fixed effect, at least six observations are available. For a related discussion see Besley and Preston (2007) who discuss the issue of consistency of the individual-specific fixed effects in the case of assessing bias of local authorities with small T.

[29] This evidence can be reconciled with the report-level results: the fixed effect analysis provides a measure of the average return to a specialist, which is revealed to be lower than for nonspecialists. This is not in contrast with the fact that when they work on issues on which they are experts, specialists may receive a higher than average compensation.

particular, everything else equal, past experience in the White House increases a lobbyist fixed effect by 12 to 15 percent. The premium associated with affiliation to the Republican party is larger and more precisely estimated than the premium associated with the Democratic party.[30]

C. *Political Cycles and Issue Cycles*

In this section we perform alternative exercises aimed at measuring whether premia associated with issue expertise or connections change with, respectively, the *political cycle* and the *issue cycle*. More specifically, in our first exercise we ask whether a lobbyist that has an affiliation to a specific party sees his average return increase as this party moves to a position of power.

Figure 1 presents evidence that connections to politicians matter for lobbyists' professional activities and particularly for their average revenue. In computing those measures, we assign to each lobbyist on the report the average per-lobbyist dollar amount on that report V_{rlt}, aggregate over each year and take logs. Figure 1 reports the Republican lobbyist revenue premium in percentage terms relative to a Democratic lobbyist (benchmarked at zero) based on total per-lobbyist, per-year amount reported in the SOPR data. Republican lobbyists tally higher revenues during Republican Congresses and Republican administrations (up to 30 percent more during the first year of Bush's second term).[31] The political cycle is not driven by specific issues being more likely to be associated to certain parties. Revenue premia are virtually unchanged running the specification issue-by-issue in the vast majority of issues. This estimated revenue cycle can be attributed to a decrease in the value of connections when political allies are out of office. In this sense, the result is very much in line with the finding of Blanes i Vidal, Draca, and Fons-Rosen (2012a), who assess a 20 percent drop in revenues occurring to lobbyists with past experience as senatorial aides when their connected senator leaves office.

In online Appendix Table A6, we also report total yearly lobbying expenses associated with lobbyists with a Republican affiliation and total yearly expenses associated with lobbyists with a Democratic affiliation. We also report the number of active lobbyists with Republican or Democratic affiliation by year. The patterns in this data match political cycles. In particular, the Republican-Democratic gaps (columns 3 and 6) appear smallest in the very first years of the sample (Democratic President) and the last few years (Democratic Congress). Hence, Republican (Democratic) lobbyists seem to be professionally more active when political power in Washington moves to the right (left).

In our second exercise, we ask whether the average return to an issue-specialist increases in periods where that issue becomes more popular and spending on that issue increases overall (perhaps because a relevant piece of legislation is being

[30] In regressions not reported here, we also tested for the possibility that expertise might only be valuable when combined with connections, a possibility that seemed in keeping with some of the patterns we observed in online Table A5. We tested for this hypothesis in both the report-level analysis and the lobbyist fixed effect analysis. We did not find this interaction term to be economically or statistically significant.

[31] The picture also clearly emphasizes the success of the so-called K-Street Project implemented by the Republican party leadership during the first part of the 2000s. The project was a "database intended to track party affiliation, hill experience, and political giving of every lobbyist in town," with the explicit aim of selectively assigning political access to GOP lobbyists (Confessore, "Welcome to the Machine," *Washington Monthly*, March 7, 2003).

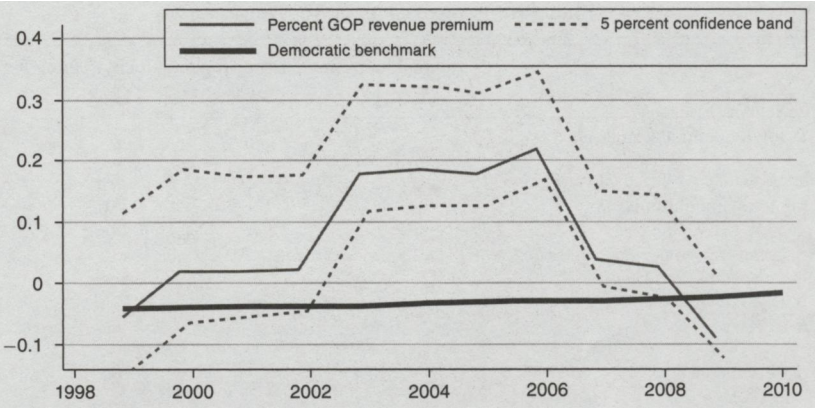

FIGURE 1. REPUBLICAN LOBBYIST REVENUE PREMIUM

discussed in Congress or at the committee level). We construct our measure of issue cycles as follows. Consider the value V_{rt} of report r at time t, and divide it by the number of issues on that report I_{rt}. This generates an average value per issue i on report r, V_{irt}. Then we sum across all the reports that contain issue i at time t, R_{it} to obtain V_{it}, the total amount spent on issue i at t:

$$V_{it} = \sum_{r=1}^{R_{it}} V_{irt}.$$

For each lobbyist l we construct a variable that captures whether the issue in which the lobbyist is an expert is booming.

Define the set of issues for which lobbyist l is a specialist as S_l and then construct a lobbyist-specific issue cycle measure C_{lt}:

$$C_{lt} = \sum_{i=1}^{S_l} V_{it}.$$

In Table 10A we show that the adjustment during a boom is mainly in terms of nonspecialists entering a given issue. More specifically, the first panel shows that the total number of lobbyists working on a given issue increases when the issue expands, while the second panel shows that the share of issue-specialists declines during an issue boom, hinting to the fact that entry is primarily by nonexperts. This seems to point to relatively low barriers to entry in a specific issue. In Table 10B the dependent variable is the average return for lobbyist l at time t, V_{lt} (previously defined). The results show that the average return to a lobbyist does not seem to respond to an expansion of the issues in which a lobbyist is specialized.

Taking the analysis in Tables 8, 9, and 10 as evidence of what lobbyists' characteristics are most prized, we do not find support for the view that expertise is the scarce resource. Instead, the lobbyists who appear to earn a premium are those who have connections to many politicians and to the ruling party.

To conclude, note that the large premium we observe for *connected* lobbyists are consistent with our assumption throughout this paper that our measure of connections capture long-standing relationships between lobbyists and politicians. The median

TABLE 10A—ISSUE BOOMS AND EXPERTISE: ISSUE ANALYSIS

	Δ log total lobbyists in issue (1)	log total lobbyists in issue (2)
Δ log total amount in issue	0.501	
	[0.062]***	
log total amount in issue		0.491
		[0.066]***
Issue specific trend	No	Yes
Issue FEs	No	Yes
R^2	0.49	0.98
Observations	684	760
	Δ share specialists in issue	Share specialists in issue
Δ log total amount in issue	−0.021	
	[0.007]***	
log total amount in issue		−0.022
		[0.006]***
Issue specific trend	No	Yes
Issue FEs	No	Yes
R^2	0.07	0.74
Observations	684	760

Notes: Unit of observation is a SOPR lobbying issue per year. Standard errors are clustered at the issue level.

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

TABLE 10B—ISSUE BOOMS AND EXPERTISE: LOBBYIST ANALYSIS

	log per lobbyist amount (1)	log per lobbyist amount (2)
Σi [Total amount in issue i × specialist in issue i]	0.000035	
	[0.000097]	
Σi [log total amount in issue i × specialist in issue i]		−4,254.96
		[9,040.62]
Year FEs	Yes	Yes
Lobbyist FEs	Yes	Yes
R^2	0.48	0.48
Observations	144,137	144,137

Notes: Unit of observation is an individual lobbyist. Standard errors are clustered at the lobbyist level.

***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.

campaign donation is $500; it would seem difficult to reconcile this being the only barrier to entry into establishing a *connection* with the fact that *connected* lobbyists are maintaining a sustainable comparative advantage of the magnitude we measure here (see footnote 28). In contrast, it appears that the barriers to entry into issue expertise are either indeed quite low (maybe the experts do not need to be the lobbyists themselves,

but can be brought in from industry or academia) or that issue expertise is not necessarily instrumental to *winning* a lobbying case.

VI. Discussion and Conclusions

Our objective in this paper was to provide some guidance on what lobbyists actually do. We were motivated by two opposite views of lobbyists that have been discussed both in the media circles and in the academic literature.[32] The first view considers lobbyists as issue experts who can contribute valuable information to the law- and rule-making process; the second considers them more as sources of access to lawmakers, because of their personal ties and knowledge of those lawmakers.

The main takeaway from our analysis is that a pure issue expertise view of lobbying does not fit the data well. Instead, maintaining connections to politicians appears important to what lobbyists do. Such connections however need not necessarily raise a flag about unethical or illegal practices. In fact, if we think more deeply about what role connections may play, we can conceive two theoretically sensible roles that are not welfare-reducing. The first and simplest one is a scenario in which lobbyists, not experts themselves, report to politicians the information produced by expert researchers working for the lobbying firm. Such view of lobbyists as mere messengers is, we believe, incompatible with the large fees assessed for their services.[33] The price tag attached to lobbyists' services suggests a second view of what connections represent: connected lobbyists are likely to bring to the table a complementary resource, perhaps reputation, credibility, or political savvy, in the transmission of information.

The second takeaway is that, although we find relationships to be important, we also find some evidence that supports the view that at least a subset of lobbyists does have expertise (i.e., concentrates her work in a specific area). More importantly, we show that politicians listen to a larger share of lobbyists with opposite political views when those are classified as issue experts. It would be hard to justify this kind of pattern in a quid pro quo setting and it is more suggestive of the existence of some form of information transmission between expert lobbyists and politicians.

While both lobbyists' expertise and their connections might be at play in the lobbying process, the value analysis suggests that connections are the scarcer resource and therefore the one that commands the highest price. In a series of recent papers, Groll and Ellis (2012, 2013) introduce two elements that capture some of these forces. Lobbyists create value by verifying information provided by interest groups, but they also need to build a reputation vis-à-vis the politicians over time in order for their information to be credible. We believe the mechanism by which information and reputation complement each other and combine in creating value in the services of lobbyists is intriguing and deserves further attention.

[32] Heinz et al. (1993); Salisbury et al. (1989).

[33] Birnbaum (2005): "Starting salaries have risen to about $300,000 a year for the best-connected aides eager to "move downtown"[to K street in 2005] from Capitol Hill or the Bush Administration."

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